# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

#### LAKE TROPHIC DATA

## MORPHOMETRIC:

Lake: PISCASSIC ICE POND	Lake Area (ha):	4.17
Town: NEWFIELDS	Maximum depth (m): 1.	2
County: Rockingham	Mean depth (m): 0.	5
River Basin: Coastal	Volume $(m^3)$ : 225	00
Latitude: 43°01'55" N	Relative depth: 0.	5
Longitude: 70°58'17" W	Shore configuration: 3.	04
Elevation (ft): 95	Areal water load (m/yr): 354	. 5
Shore length (m): 2200	Flushing rate (yr <sup>-1</sup> ): 657	.0
Watershed area (ha): 3233.6	P retention coeff.: 0.	02
<pre>% watershed ponded: &lt; 0.10</pre>	Lake type: natural w/d	lam

BIOLOGICAL:	22 February 1996	24 July 1995
DOM. PHYTOPLANKTON (% TOTAL) #1	NO PHYTOPLANKTON	DINOBRYON 50%
#2	SAMPLE COLLECTED	MOUGEOTIA 20%
#3		CHRYSOSPHAERELLA 10%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		10.31
DOM. ZOOPLANKTON (% TOTAL) #1	NO ZOOPLANKTON	NAUPLIUS LARVA 46%
#2	SAMPLE COLLECTED	CYCLOPOID COPEPOD 28%
#3		
ROTIFERS/LITER		162
MICROCRUSTACEA/LITER		975
ZOOPLANKTON ABUNDANCE (#/L)		1239
VASCULAR PLANT ABUNDANCE		Very abundant
SECCHI DISK TRANSPARENCY (m)		1.1
BOTTOM DISSOLVED OXYGEN (mg/L)	11.4	0.4
BACTERIA (E. coli, #/100 ml) #1		7
#2		
#3		

## SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None Hypolimnion volume (m³): None

Anoxic volume  $(m^3)$ : 500

CHEMICAL:  Lake: PISCASSIC ICE POND  Town: NEWFIELDS				)	
	22 February 1996		24 July 1995		
DEPTH (m)	1.0		1.0		
pH (units)	5.8		6.8		
A.N.C. (Alkalinity)	4.3		19.1		
NITRATE NITROGEN	0.18		< 0.10		
TOTAL KJELDAHL NITROGEN	0.30		0.78	•	
TOTAL PHOSPHORUS	0.019		0.035		
CONDUCTIVITY (µmhos/cm)	95.2		121.0		
APPARENT COLOR (cpu)	70		120		
MAGNESIUM			1.48		
CALCIUM			6.3		
SODIUM			13.0		
POTASSIUM			1.24		
CHLORIDE	19		25		
SULFATE			2		
TN : TP	25		22		
CALCITE SATURATION INDEX			2.4		

All results in mg/L unless indicated otherwise

#### TROPHIC CLASSIFICATION: 1995

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	6	2	12	Eutro.

#### COMMENTS:

- 1. No public access; launch canoe over guard rail at the outlet.
- 2. This is a shallow and very weedy eutrophic pond on the Piscassic River. It drains a relatively large area and has an extremely rapid flushing rate (almost twice per day).
- 3. Despite the rapid flushing rate, a relative rich algal population was able to develop. Filamentous algae and associated tiny pennate diatoms were a significant part of the planktonic algal community.
- 4. The pond drains significant wetland areas and has a dark tea color. Sodium and chloride values suggest salt drainage into the pond.

#### FIELD DATA SHEET

LAKE: PISCASSIC ICE POND

DATE: 07/24/95

TOWN: NEWFIELDS

WEATHER: SUNNY, FEW CLOUDS

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	28.2	6.0	77 %
	0.5	23.9	4.0	47 %
	1.0	22.2	0.4	4 %
	344			
<u> </u>				
	400			

SECCHI DISK (m): 1.1 COMMENTS:

BOTTOM DEPTH (m): 1.2

TIME: 1030

\*Dissolved oxygen values are in mg/L

#### AQUATIC PLANT SURVEY

LAK	E: PISCASSIC ICE POND	TOWN: NEWFIELDS	DATE: 07/24/95	
Key	PLANT	NAME	ABUNDANCE	
кеу	GENERIC	COMMON		
P	Pontederia cordata	Pickerelweed	Abundant	
W	Potamogeton	Pondweed	Scattered	
ប	Utricularia	Bladderwort	Common	
Y	Nuphar	Yellow water lily	Common	
S	Sparganium	Bur reed	Sparse	
b	Scirpus	Bulrush	Sparse	
С	Cephalanthus occidentalis	Buttonbush	Very abundant	
g	Polygonum	Smartweed	Scattered	
a	Sium suave	Water parsnip	Sparse	
R	Ranunculus	Buttercup	Very abundant	
			114	

OVERALL ABUNDANCE: Very abundant

# **GENERAL OBSERVATIONS:**

- 1. This is a very weedy pond (essentially a wetland) with a very narrow channel of open water through the middle.
- 2. Pickerelweed and buttonbush were abundant along the entire shoreline, and buttercup was abundant over the entire bottom.
- 3. Western end of the pond was not navigable because of dense macrophyte growth.